nbavafa@gmail.com NICHOLAS F. BAVAFA *(925) 642-9199*

EDUCATION

University of California, San Diego *September 2016 — June 2020*

Bachelor of Science in Bioinformatics - Computer Science *Citizen's Award Recipient*

- *Selected Coursework*: Software Programing, Data Structures I & II, Objected-Oriented Programming, Software Tools and Techniques, Algorithms & System Analysis, Molecular Sequence Analysis, Biological Data Analysis, Computational Linguistics, Advanced Bioinformatics Laboratory

EXPERIENCE

Incoming Software Development Engineer — *Amazon.com* *September 2020*

Software Development Intern — *Amazon.com* *June 2019 - September 2019*

- Part of internal AWS team for ticketing, issue management, and agile process planning tools for all Amazon employees
- Designed and developed new data structures, logic and algorithm for issue and ticket severity promotion timers
- Full stack software development of workflows to show customers pertinent information regarding each trouble ticket
- End to end ownership: From investigation and writing design proposals, to managing code deployment through pipelines

Bioinformatics Software Intern — *UCSD Murrell Lab* *April 2018 - January 2019*

- Part of team that developed genetic sequencing software (Julia) for amplicon denoising
- Co-developed statistical samplers on real data-sets using Bayesian, Fourier, and likelihood modals
- Developed an automated test suite for interoperability
- Analyzed and packaged code to satisfy Julia metadata compliance

Frontend Web Developer — *Sapie Space (Local Startup)* *January 2018 - August 2018*

- Led the team that designed and developed frontend framework for a social listing web application
- Integrated backend AWS Cognito Userpools (user authentication) and Elastic Search (real-time database)
- Developed and integrated tier-based user subscription paths and payments using Python Stripe API

Research Assistant — *Hnasko Lab* *September 2017 - June 2019*

- Undergraduate research assistant in the School of Medicine at UC San Diego
- Coded Med-PC IV programs for training mice with extensive statistical analysis on behavioral data from lab subjects

PROJECTS

Tutoring Push Notifications — *UC San Diego Mobile Application* *Fall 2018*

- Worked on a team that designed a full stack API to notify students of upcoming tutoring sessions for their classes
- Client - Server data structures via REST API and reducers

Study Groups App — *iOS App Store* and *Google Play Store* *September 2018 - March 2020*

- Designed, developed, tested, published, and maintained a cross platform social networking mobile app that allows students to connect with their peers at their academic institution to find and create study groups
- Real-time Firebase authentication and database integration

React Native Dating App — *Available on public GitHub repository* *June 2018*

- Developed an open source frontend framework for a mobile app publicly made available on GitHub
- Coded user flow and authentication with swipe event handlers
- Object-oriented design to mimic database object rendering

Resident Assistant — *University of California, San Diego* *August 2017 - June 2018*

- Directed student conflict resolution, time management, peer mentoring, and academic and personal adjustments to college

PUBLICATIONS

Long-Read Amplicon Denoising — *Nucleic Acids Research (IF: 11.147)* *August 2019*

- Fast Amplicon Denoising (FAD) and Robust Amplicon Denoising (RAD) are implemented in the Julia scientific computing language, and are released along with a complete toolkit of functions that allow long-read amplicon sequence analysis pipelines (*https://academic.oup.com/nar/article/47/18/e104/5550323)*

SKILLS

- **Technical**: Java, C, C++, Python, AWS, Firebase, Git, Bash, Julia, Javascript, React, Typescript, CSS, Clojure, GraphQL